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ABSTRACT

This exploration of the state of Canadian bibliography in the area of education builds on a paper on the same topic that was delivered at the First National Conference on the State of Canadian Bibliography in 1974, and reviews recommendations made at that time. Information was gathered from key informants, including practitioners and producers of commercial databases. The paper covers four topic areas: (1) progress in Canadian subject bibliography in education, including the impacts of technology on format and content, areas needing research, and suggestions for improving the quality of the education databases; (2) the current state of bibliographic resources in education, including key Canadian bibliographic tools; (3) a review of three 1974 recommendations for educational bibliography and actions taken on these recommendations; and (4) 10 new recommendations that respond to changes in the field. The review of bibliographic tools includes Canadiana and Canadian Education Index (CEI), both of which are available online and in paper copy; ONTERIS, a database that serves as a clearinghouse for a high percentage of educational documents produced in Ontario by education professionals; EDUQ, which is one of Quebec's major bibliographic tools in education; emerging databases that offer bibliographic control of specialized areas within education; bibliographic publications available in paper format; a description of bibliographic control of audiovisual materials; and the state of bibliographic control of government publications. A list of individuals consulted in preparing the paper concludes the report. (Contains 32 references.) (KRN)

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From Vancouver B.C. (1974) to Charlottetown P.E.I. (1992):

Achievements, Challenges, and Opportunities of Canadian Bibliography in Education

Bibliographic Control of Education Materials in Canada

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Introduction

We were asked by the chairman of the programme committee of the Third National Conference on Canadian Bibliography to prepare a position paper on the state of Canadian bibliography in the area of Education.

Professor Edward G. Summers had prepared a position paper for the 1974 Vancouver meeting of the National Conference on the State of Canadian Bibliography. The paper was published in the proceedings of the conference in 1977. Based on Summers' paper, we were asked to:

1. review progress in Canadian subject bibliography in education since the first national conference in 1974;
2. discuss the 1974 recommendations;
3. identify gaps in Canadian bibliography related to education;
4. examine the impact of technology on bibliography in the field of education, and
5. recommend strategies to fill gaps in bibliographic coverage and methods to increase the dissemination of bibliographies.

Methodology

With little time to complete the task, we opted for the "rapid assessment" method and contacted key informants, authors of past papers and publications, librarians in various institutions, as well as private groups working in the commercial production of bibliographic databases in the area of education.

Professor Summers (1977) used a systems paradigm in organizing his position paper, and proposed a model for an "open system information delivery" system for documents on Canadian education. He identified six different roles which allow the persons assuming these roles in the system to view the problem of information and bibliography from the particular perspective of (1) a producer, (2) a cataloguer, (3) an organizer, (4) a retriever, (5) a resource administrator and (6) a user (p. 287). He acknowledged that the linkage between these different role players is inadequate. One aim of the conference in 1974 and again in 1992 is to bring about a closer collaboration between these different interest groups.

This paper was prepared by a librarian and by a professor of education. The librarian brings expertise in identifying, locating, and describing documents, and the machine handling of bibliographic data using the latest computer and

communication technologies. The professor can help in the identification, characterisation, selection, and evaluation of the documents and source materials in the field of education. We each have over twenty years of experience in our areas of specialization and have been collaborating over the past seventeen years at Concordia University. Although over the years we have worked on problems related to the development, evaluation, and tracing of bibliographic sources on special topics (immigrant women and education, feminist writings by Canadian educators) and methodologies (case studies of Canadian schools), this is the first time that we have systematically examined the state of bibliographic information on Canadian education. This conference, by inviting this interaction, has generated an increased awareness for us of the importance of a national bibliographic repository in the area of education. We shall share with you some of our findings, our questions for future research, and suggestions for action by all involved in the field of education: school-related personnel at all levels of administration and professional diversity, university-related personnel, members of professional associations related to the field of education, government education departments and personnel, formal, non-formal and informal education networks and personnel, novices and experts, producers, processors, and users of such information.

Summers reminded the 1974 conference participants that "Such collaboration is much needed and its spirit should be heavily underscored by all those who attend and participate in the conference." (p. 268)

Questions raised by Summers in 1974

In modelling an effective "open systems information delivery" system for documents on Canadian education, Summers (1977) asked five major "systems constituent" questions:

1. What are the size and characteristics of the reference group in Canadian education?
2. How many and what type of documents are being produced by the reference group on a yearly basis?
3. How many of the documents produced by the reference group actually enter the existing information delivery system?
4. How effective are current practices in describing, organizing, and providing information about education-related documents once they enter the existing system?

5. What bibliographic materials have been produced in Canadian education, how can they be located, and what needs are still unmet?

Areas of Change since 1974:

The real issue here is the rate of change. Because of rapid advances in technology we risk producing very expensive but non-friendly and inefficient systems and databases. There is a real danger in the increasing gap between our knowledge of user styles for information collection and input and the user styles for information retrieval and output. Summers (1974) identified the following three needs and developed five criteria for an effective system:

What is needed: a) an examination of the structure of the present system; b) the development of a more effective linkage of the existing elements; c) the creation of appropriate linkage with the new elements. He developed the following five criteria for the system: a) open ended and free; 2) easy access by any one user; 3) a retrieval plan clear for any user; 4) a feedback mechanism included; 5) user friendliness because of the multiple systems available. In discussing the existing bibliographic sources we shall refer to these criteria where appropriate.

It is clear that we must improve our understanding of the needs and issues involved in developing such a system. Therefore, we must encourage related research projects both by developing interest and by financially supporting such interest. This should become a priority area. Canadians may not be able to compete in terms of market size for the production of low cost bibliographic sources, but we do have an edge on the communication technologies involved and we can become leaders in this area.

Let us now discuss briefly some changes related to format issues and content issues.

Format: Great advances have taken place in computer and communications technology and information storage and retrieval systems since 1974 (ex. CD-ROM). Although these new technologies allow faster access and retrieval in response to the demands for quick information, they are costly to produce and update in the Canadian educational context. We should be reminded that this is an issue relating to the creation and protection of the intellectual property of our nation. The benefits of a good bibliographic system are analogous in some ways to the benefits of a good central bank for the economy. It is the central repository of the sum total of our intellectual production in a given area, and it protects and regulates the nature and the rate of growth in that area of production. This analogy is also interesting given that many issues relating to the protection of

intellectual property (in this case bibliographic databases) are economic in nature. As a nation, we should consider seriously an economic analysis of several issues that arise in the area of the subject bibliography of education in an international context. The economies of unilateral, bilateral, and multilateral action should be improved, (especially in the context of free trade agreements being signed by Canada). This analysis will serve to inform our decisions in our choices of number of members and mutually exclusive or inclusive, cooperative international agreements into which we enter. Such an analysis will enable us to choose on an informed basis between a minimalist scenario which calls to concentrate on Canadian sources uniquely, and a maximalist scenario where we have an inclusive international approach with multiple language entries. From an economic point of view we may find out that a minimalist scenario is not the most economically viable one.

Although creating and maintaining such a system may involve considerable costs, we should make this a priority. As Summers (1977) stated in his position paper, "It is important to have significant Canadian material systematically organized for input into indexing publications in other countries covering educational literature." (p. 282)

All education-related professional associations should lobby for this goal, as the literature related to education has great cross-disciplinary and cross-national utility in socializing and educating the reference groups towards a better appreciation of similarities and differences, and hence promotes an increase in better intercultural, international communication and understanding.

Canadian producers of educational materials should be required to identify the Canadian origin of their production and should submit a copy of their materials to a central bibliographic database. By its inherent diversity, the educational literature/production will be the right experimental area for developing a model for Canadian bibliographies in general.

Another area of rapid change is the explosion of new types of educational materials in non-print forms and the increasing electronic publishing of periodicals. We should provide a model of an appropriate and systematic indexing mechanism to recuperate all these materials for integration into a centralized database.

Content: From a content point of view, the educational production has increased in complexity and diversity. Education is a multidisciplinary field, and traditionally it has had close links with historical-philosophical foundations and social-behavioral disciplines (sociology, psychology, anthropology, economics, etc.) Increasingly education is drawing from the new areas of scholarship that are themselves interdisciplinary or multidisciplinary in nature: feminist

scholarship, multicultural, intercultural, anti-racist scholarship, native studies and ethnic studies, as well as educational and information science technology. Therefore, investing in bibliographic research in education will benefit the field of Canadian bibliography as a whole.

In preparing improved bibliographic databases, especially in multidisciplinary areas such as education, it is recommended to encourage research in the information seeking strategies of users, school children at all levels, undergraduate and graduate students, postgraduates, professors, reference librarians, novices, and experts who use the new electronic products made available through new technologies such as CD ROM. Studies should examine the following questions:

1. How much formal training is needed for the use of a system?
2. What methods of retrieval are used?
3. What are the relationships among users, text, and search patterns?
4. What search patterns are exhibited and how are these patterns related to information seeking strategies?

Based on the results of such projects, suggestions for systems designers can be made and other research questions identified.

Another area for research will be to identify the effectiveness level of citation retrieval as compared to thesaurus terms. An example is a study reported by Katherine W. McCain (1988) in retrieval overlaps and novelty distribution in the medical behavioral science literature. McCain compared search results from a "descriptor-based" database and from a "citation-based" database. The results reflected the varying partial congruence of the two literature networks and represented two different types of subject relevance. It is demonstrated that participation by authors in the database compilation process will help improve the database as well as congruence, while enhancing Canadian source and content identification.

Results of research conducted on bibliographic materials show that three factors must be closely monitored to improve the quality of the product. These are (1) completeness of coverage, (2) timeliness, and (3) consistency or correctness of data. Clenerdon (1984) has questioned the wisdom of exhaustive coverage. Nevertheless, compilers of national bibliographic databases still attach, and rightly so, a sense of value to the claim that their databases cover a high percentage of the published literature in a particular discipline.

No one has questioned the importance of the improvement in the timeliness of bibliographic information services, i.e. shortening the time between publication of the primary literature and its announcement in the bibliographic database. Such an effort enhances the value of the database and gives the producers of the database a competitive edge. Similarly, accuracy of data (proper citation, correct categorisation and other such measures) is viewed as a direct measure of the quality of the database. Usually, many quality control procedures are built into the processing stream that produces the database.

In improving the information provided in the database we must pay special attention to ensuring that a) formal influences on authors' thinking are cited clearly; 2) biased citing does not take place; 3) informal influences are acknowledged; 4) self-citation is done accurately; 5) information related to the gender of the author/authors of the paper and those mentioned in the paper, their nationality, time period, and type of specialty are clearly identifiable. Where possible, we should go back and revise existing databases based on these factors. Each record in a bibliographic database usually consists of information in two parts: full bibliographic description, and the indicators of the subject content of the original text. When new input is merged into the database, extensive checks are made on the important components. We should ensure that the components mentioned above are all included. The second part of the record consists of information on subject content. This part may take different forms but usually includes the following: title, abstract, subject categories selected from a thesaurus, free-text terms chosen by the indexer, subject production of indexes, and an indication of the presence of certain special types of information such as statistical data. Many of these aspects can be subjected to comprehensive checks.

Education-related materials are being produced in several languages within different ethnic communities in Canada. A large amount of this production is funded by federal and/or provincial government bodies. Official bilingualism and multiculturalism have provided us with a unique opportunity to work on congruence and on research into inclusive systems that can account for these diversities in production. Equivalency mechanisms and procedures can be developed and used in automatic checks.

While these checks can identify formal error or can make formal congruences, and assign formal equivalencies, they do not identify logic errors: they may miss the correct intellectual analysis of the text or interpretation of a term as preferred by the author or the expert specialist indexer.

These types of decisions represent a large intellectual investment in many databases. Computer programs can be very useful here in improving the

"intellectual accuracy" of the databases. This is where a cooperation between producers and indexers will enhance the value of the database. Programs can be developed to be used in the same way as the "spell check" or "dictionary" software now offered by many systems. When an author finishes inputting a new text, a specially created "check program" can be used to compile the bibliographic information the author feels best characterizes the contribution of the new text. To use the terminology of artificial intelligence (Barr et al. 1981-82) we will create an Expert System that could use an "inference mechanism" to make its decisions. For many decades we have required that the producers of materials in education follow standard rules for the preparation of manuscripts in order to contribute to clear communication (Turabian, Publication Manual of the American Psychological Association etc.). We can place similar requirements for the preparation of abstracts and citation vocabulary. Such a step will enhance awareness of the reference groups concerned and increase the flow of communication. It is also possible that it will improve the efficiency of the system, its completeness, and its timeliness. It will heighten the prestige of the field of bibliography in the eyes of the reference group and funding agencies.

1992 Overview: What does exist?

Summers (1977) was not impressed with the state of bibliographic resources in education, as described in his position paper at the Vancouver conference: "Outside of a few standard sources, the existing bibliographies have been produced in a fragmented system, are difficult to identify and even harder to obtain" (p. 279).

A cursory examination of current resources might indicate that bibliographic materials in the area of education have not improved. In fact, one might conclude that resources have deteriorated since 1974. Ryder's Canadian Reference Sources (1981) needs updating, CEA's Directory of Education Studies in Canada seems to have disappeared, and three other key bibliographic series specific to education, and listed by Summers, are no longer published. More on these later. On the other hand, a thorough investigation reveals that though Canadian researchers have lost some key bibliographic tools, they have gained in significant ways with new titles and easier access to primary materials.

Canadiana and Canadian Education Index (CEI):

Canadiana and Canadian Education Index list subject bibliographies related to education and are the two primary bibliographic tools for researchers in the field of education. Both titles have developed at different rates and in different directions over the past twenty years. Canadiana, our national bibliography, has

offered online access (CAN/MARC) since the early seventies, in addition to the paper and microfiche editions which unfortunately have proved very tedious for most researchers. Its monthly coverage of core books, serials, theses, pamphlets, federal, provincial and municipal government publications, etc. makes it an indispensable tool for searching the literature in any discipline. An important aspect of the National Library's selection policy, which determines the content of Canadiana, is its agreement with the International Council of Canadian Studies. ICCS is responsible for identifying, acquiring, and cataloguing of materials produced by major Canadian Studies programs and organizations beyond Canada's borders. Though not a foolproof means of assuring the coverage of such materials, it certainly offers a satisfactory, if only partial, solution to the vexing problem of the identification of Canadian Studies materials produced abroad. With the National Library's review of its cataloguing policy in the eighties, establishment of levels of cataloguing meant that there was a decrease in the time required to list an item in Canadiana, making it a more up-to-date resource.

Plans to convert Canadiana's online database, CAN/MARC, to a CD-ROM package are at a preliminary stage, but such a move would improve access immeasurably for end-users. However, the National Library should learn from the mistakes already made by database vendors who have moved to CD-ROM versions of print or online indexes. The end-user must be kept in mind when designing software and choosing a vendor. The end-users in Canada have come to expect user-friendly CD-ROMs. Anything less could scuttle the success of a CD-ROM version of Canadiana.

Researchers of Canadian education studies have long relied on the Canadian Education Index (CEI), which had been the responsibility of the Canadian Education Association since 1965. In 1988, Micromedia Ltd. took over CEI's operation and at the same time incorporated the useful reference tool Directory of Education Studies in Canada, enhancing the capabilities of this primary tool. CEI continues to index periodical articles, government and research reports, and monographs, and has broadened coverage to include curriculum documents, graduate dissertations in education, and forthcoming titles. Journal coverage now totals 200 titles, compared to 175 titles in 1973. Time-lag between publication of a document and its appearance in CEI has lessened somewhat, and certainly the publication delay of the index itself has improved considerably since 1988.

One of the more significant changes over the years is the means of accessing CEI. Users may choose to search the paper copy, the online format through InfoGlobe, or Micromedia's CD-ROM version, called CD-Education. However, online access is considered expensive by users, and the CD version lacks the

user-friendliness that education researchers have come to expect through their contact with ERIC CD-ROM. A new solution should be considered for the online version in order to make searching costs more reasonable. Dissatisfied users of CD-Education should contact Micromedia and make their suggestions for improvements known to the company. Complaining amongst ourselves will not lead to any improvements in service. Cybernetic means of providing feedback are as critical now as in Summers' time. The difference today is that a mechanism can be built into a system to allow instant feedback. For example, users of Infomart's system can simply switch to electronic mail while online to achieve immediate contact with Infomart's Action Desk. Most vendors provide their users with a toll-free number for use when e-mail may not be appropriate or available.

Micromedia has made the acquisition of materials listed in CEI much easier with the creation of its full-text support service. Libraries may subscribe to the complete microfiche file called Microlog Education Collection, thereby offering a valuable service to their clientele in the same way that ERIC's fiche collection supports its abstracting service. If need be, researchers may order individual titles listed in CEI, including theses, direct from Micromedia's Document Delivery Service, expensive but convenient and sometimes essential.

Abstracts of some books, articles, and reports are included in CEI but are limited in number. Micromedia announced recently that abstracts will be added to its Canadian Business and Current Affairs (CBCA) database beginning January 91 at a rate of 1700 a month - might Micromedia be willing to add to the abstracting service it offers its customers in education? The company won't do so unless its users provide the necessary feedback that encourages such improvements.

CEI's infrequent publication schedule (three times a year) continues to be problematic. Monthly output would be ideal, but if costs prohibit such a schedule, bimonthly publication would be considered a major improvement.

In April, one of the ERIC clearinghouses announced by e-mail that it is in the process of evaluating one electronic journal for regular coverage in CIJE. We trust that Micromedia will be ready to add appropriate electronic journals to its list of journals covered by CEI.

Micromedia, in its new role as Canada's clearinghouse for educational documentation, invites Canadian institutions and organizations to submit primary research and report literature. Individual authors and publishers are also encouraged to contribute their materials for inclusion in the company's

country-wide system. How many do so? At Concordia University in Montreal, we are not aware of any faculty who contribute to Micromedia, though we do know of some who have submitted their material to the ERIC system despite its lack of peer review.

ONTERIS and EDUQ

In 1991, Micromedia enhanced access to CEI by producing it in CD-ROM format from 1976 to date. In conjunction with CD-Education, three other sources of information are offered, including the bibliographic database ONTERIS. The ONTERIS database covers publication and materials from the Ontario Ministry of Education, OISE, Ontario Boards of Education, faculties of Education, teachers' associations, TV Ontario, and other educational agencies. It performs the role of a clearinghouse for a high percentage of educational documents produced in Ontario by education professionals, and in its role could serve as a model for other provinces and territories in Canada.

In April of this year, OISE and Micromedia Ltd. signed a Memorandum of Understanding that allows for the joint production and dissemination of the ONTERIS (OISE) education database. The Ontario Ministry of Education transferred ONTERIS to OISE in October 91. OISE will have responsibility for acquiring, cataloguing, and abstracting all documents produced by the Ontario government, faculties of education, school boards etc., while Micromedia will take responsibility for disseminating its materials. ONTERIS (OISE) will be incorporated into the print and online editions of CEI and will continue to be available on Micromedia's CD-Education. All documents will be available on microfiche through Micromedia. This union of Micromedia and OISE enhances service to the educational community and serves again as a model for others across the country.

Quebec does have in place a similar system to ONTERIS, called EDUQ. It offers the same type of bibliographic control of educational documents as does its Ontario counterpart, supported with a microfiche collection that allows ease of access to the full-text of documents listed. It, too, is available for searching online, but doesn't offer end-user searching through the popular CD-ROM format. Nor does it have any Canada-wide distribution network. Linking EDUQ with CEI in the same manner as ONTERIS (OISE) would ensure Canadian coverage of one of Quebec's major bibliographic tools in the field of education.

Other provinces and territories don't have formal networks in place allowing for control of their educational output through bibliographies like ONTERIS or EDUQ.

A recommendation then would be aimed at Departments of Education within each province urging that some body or agency be designated as a clearinghouse responsible for the bibliographic control of educational publications emanating not only from the various government agencies but also from school boards, university faculties of education, and individual authors. Any control so created could form a link with Micromedia, as is the case with ONTERIS (OISE), to allow the dissemination of educational documentation across Canada.

The major downside to the system lies within the community it is designed to serve. Micromedia relies on researchers and the faculty and students of schools for input into the system, and this input is not always present, certainly not in any formal and consistent way. The community at large must be urged to give its support more consistently if it wants to continue to have access to good bibliographic control of Canadian education material. Perhaps Micromedia needs a stronger marketing strategy to reach out to a targeted population with a very definite message. For instance, faculty members within departments of education in universities throughout Canada must be made aware of the need to deposit papers and research reports with Micromedia, which will then disseminate them to a larger audience. Micromedia could outline its acquisitions policy on a bookmark or in a brochure that could be distributed widely and inexpensively to appropriate bodies.

A note about our users. Students at Concordia University, both at the graduate and undergraduate level, are introduced each semester to bibliographic and reference tools in the field of education. They receive demonstrations of both CEI and ERIC, along with other key indexes. What happens throughout the year? Students embrace the concept of one-stop shopping and use ERIC to the exclusion of most other indexes. The library encourages this idea somewhat by offering users only one education periodical index on CD-ROM: ERIC, with over 750 journals and 1000 research reports indexed monthly. Can Canada compete? Impetus must come from the primary users, researchers, faculty librarians, teachers, and school officials. All must be made aware of the need to promote the use of bibliographic tools produced in Canada, or Canadian tools may not develop in any significant way, or may not survive.

However, help may come in another guise. When CEI was produced by Canadian Education Association, an international project was begun to link CEI with British Education Index (BEI) on one Dialog file. The development of an

English-language database composed of indexes other than ERIC never materialized. Perhaps the time is ripe for revival of such an idea. A model for such a project exists in the business field with two titles offered in online and CD-ROM formats: F&S U.S. and F&S International.

A recommendation would be: an international index that would include CEI, BEI and perhaps Australian Education Index. Such a project would offer the education community significant new titles for bibliographic access online and in CD-ROM format. Such a package would help to dispel the ERIC bias while increasing the wealth of educational documentation available to an international audience. The French speaking countries are already well served by Francis: Sciences de l'education in paper copy and Francis CD-ROM in CD-ROM version.

Once again, strong support from the educational community is essential to the success of this international project. Faculty, teachers, librarians, education officials, and associations would have to promote the use of CEI; researchers would have to be encouraged to submit reports and papers to Micromedia or the appropriate clearinghouse responsible for the acquisition of educational publications.

More help comes from a grassroots movement - a three association founded by librarians of teachers colleges in Ontario. Jan Kolaczek, a founding member, explained that a primary purpose of the association is to act as a lobby group. A target of their efforts is the bibliographic control of educational materials such as the curriculum documents produced by the Province's Ministry of Education.

Other databases:

Other small databases offering bibliographic control of specialized areas within the field of education will become more common. The Canadian Association of Principals (CAP) is planning a database of materials of interest to their members. It will be produced in conjunction with NASSP, NAESP and ...ERIC. The Association Quebecoise pour l'Utilisation de l'Ordinateur au Primaire et Secondaire is prepared to announce two CD-ROM titles, one to contain primary and secondary school tests and other evaluation instruments. The Quebec Ministry of Education will soon have a database containing curriculum materials as well as key journal articles related to the secondary school science programme. These specialized databases need not exist in isolation. At the very least, these database titles should be controlled through a publicized listing and,

if appropriate, made available to the community at large through a link with Micromedia. Silver Platter's new database, Education Library, should inspire the production of a similar CD-ROM database to include all education books and government documents published in Canada dating back to the 17th century.

Paper format bibliographic publications:

Bibliographic publications in paper format still exist but are few in quantity. Lillian M. Rider's Summary of Developments in Canadian Subject and Area Bibliography since 1974 (1982) provides a listing of key bibliographic publications in the field of Education between 1974 and 1980. Rider described this output during these years as 'meagre', with only nine titles listed for Education. As noted above, two major bibliographic series ceased publication, the Ontario Institute for Studies in Education with #6 in 1980, and the Canadian Teachers' Federation series with its #81, 1987. Robin Harris's A Bibliography of Higher Education in Canada (1981) remains dated. Dorothy Ryder's Canadian Reference Sources (1981) awaits revision though it is updated annually in the February issue of Canadian Library Journal. Not all is bleak, on the other hand. University of British Columbia's Continuing Education Department continues to publish its series on Adult Education. An initiative of the Quebec Deans of education, Repertoire des Publications from University of Sherbrooke, provides an annual checklist of papers and research reports written by professors of departments or faculties of education in Quebec universities.

Two recent bibliographies from British Columbia give encouragement to the bibliographic state of affairs. Valarie Giles's Annotated Bibliography of Education History in British Columbia (1992) and Patrick Dunae's A Guide to Government Archives Relating to Public Education in British Columbia, 1852-1946 (1992) provide excellent examples of the kind of bibliographies so essential to Canadian Studies, and the type that the historical study of education lacks. In Quebec, Brodeur's Les Cathechismes au Quebec, 1702-1963 (1990) offers the same kind of historical aid.

The year 1989 saw the results of a major effort for the bibliographic control of Canadian education materials with the publication of E. Gault Finley's Education in Canada: a Bibliography/l'Education au Canada: une bibliographie (1989). No publication to date can match the comprehensiveness of this bilingual retrospective bibliography, which includes 14,000 entries dating from the seventeenth century to the early 1980s. Author and title indexes are straight forward, but accessing the materials listed through three broad subject headings is cumbersome at best and will tax the most patient of researchers. Finley's bibliography offers not only comprehensive coverage of the broad field of

education in Canada, but serves as a basic tool for those doing research in the discipline. However, comparison of Finley's publication with Lerner and Williamson's Art and Architecture in Canada: A Bibliography and Guide to the Literature to 1981 / Art et architecture au Canada : une bibliographie et guide de la documentation jusqu'en 1981 (1991) does highlight one other limitation of this bibliography: Why no abstracts? Though Finley has provided a major tool for educational researchers, he has left room for a more definitive work of Canadian education bibliography.

Audiovisual materials:

Bibliographic control of audiovisual materials produced in Canada leaves much to be desired. No comprehensive up-to-date listings exist except for the medium of film/video. In the 1970s the Canadian Non-Print Project had plans to compile and publish a standard catalogue of Canadian non-print materials in French and English produced for children and young adults. A machine-readable database was to be produced to be used for updating purposes as well as for computer retrieval of information. A notable effort was achieved by Rothwell in her publication Canadian Selection: Filmstrips (1980), but the Non-Print Project ceased with this one publication and plans for a full catalogue providing a selective annotated bibliography designed for Canadian schools and libraries was never realized. Lack of funding may explain the demise of the Project, as well as the fact that it was based upon the dedication of a sole individual.

CM: A Reviewing Journal of Canadian Materials for Young People (1971-), does offer a definite aid to current nonprint materials but is far from being comprehensive in its listings.

The National Film Board provides thorough coverage of film in the publication Film/Video: A Guide to Canadian Films and Videos, and in 1991 the NFB published The NFB Film Guide, listing 8000 English- and French- language films, including education films, produced by the NFB from 1939 to 1989. Access is enhanced by Format, the online database for audiovisual materials available through QL. For French-language audio-visual materials produced in Canada and other French speaking countries, the series Les Guides pour enfants offers listings on all subjects for children 12 and younger. For adolescents and adults Les Guides Tessier : films et vidéos documentaires pour adolescents et adultes lists both film and video titles and provides updates to Le Tessier 83 and 86. Current listings of Canadian and international audio-visual materials in French are available in paper through Choix; documentation audiovisuelle, and in online or CD-ROM formats through DAVID.

Government Publications

Summers (1977) noted that:

[...] little or no bibliographic control exists for government documents, subject indexes are scarce and government agencies seldom distribute lists of their own publications and the related documents are even harder to obtain. (p. 266)

There has been a substantial increase in the bibliographic control of government documents. Good subject access is now possible through Microlog: Canadian Research Index (1979-) and Canadiana. Most provinces and the territories provide complete lists of their own publications, with Bibliographie du Québec providing an excellent example. Ontario offers an online model with its Cooperative Documents Project (CODOC), which represents the holdings of eleven academic libraries in the province, and includes both federal and provincial official publications from 1960 onward that can be searched online via CISTI. More specific in nature, Goulson's A Source Book of Royal Commissions and Other Major Inquiries in Canadian Education 1787-1978 (1981) identifies 367 inquiries and includes primary reference sources. Goulson's update, A Source Book of Royal Commissions and Other Major Inquiries in Canadian Education 1979-1983 (1985), is a further sequence of 110 inquiries. Dunae's The School Record: A Guide to Government Archives Relating to Public Education in British Columbia 1852-1946 (1992), already cited, is produced by the British Columbia Education History Project. These titles provide researchers with very useful retrospective coverage.

The 1974 Recommendations: a Review

The following recommendations were adopted in 1974:

a) That a national standing task force on information networks for education be struck, with representation from the Canadian Society for the Study of Education, the Canadian Teachers' Federation, the Canadian Education Association, and other organizations and individuals involved in education bibliography, to study continuing needs for information on Canadian education, to articulate strategies for implementing improvements, to monitor developments, and to worktoward the development of a machine-readable data base in education.

b) That procedures be established to ensure that documents of Canadian provincial governments in the field of education are included in **Canadiana** on a regular basis; this involves the cooperation of the governments in question in supplying such documents to the National Library.

c) That the Canadian Education Association consider the integration of its Directory of Education Studies in Canada with the Canadian Education Index, to include, in one publication, all Canadian documents dealing with Education.

What was acted upon?

Summers (1977) put forth three recommendations, of which two have been clearly acted upon. 1) The Directory of Education Studies in Canada was incorporated into the Canadian Education Index in 1988. 2) Education documents of provincial governments are included in Canadiana on a comprehensive basis through a variety of deposit arrangements between the National Library and the appropriate government bodies. These documents though, in the paper copy of Canadiana, need to be highlighted in some manner to permit easier identification by users.

A national task force on information networks for education was never established, though work was done especially to develop the Canadian Education Index both in online and CD-ROM formats. There remains a need for such a task force, involving the same representation from the Canadian Society for the Study of Education, the Canadian Teachers' Federation, the Canadian Education Association, and other organizations and individuals involved in education bibliography, to articulate the means to locate use areas requiring improvement and to implement changes. Failing the creation of a task force, the Canadian Education Association must be willing to take on the role of both watch-dog and initiator within the educational community in order to bring about the growth required in the bibliographic field.

The 1992 Recommendations

Based on the brief review of the fate of the 1974 recommendations, the most important recommendations are:

1. To mandate a special group of conference participants to act as a pressure group to lobby the funding agencies and the professional associations in education to implement the recommendations.

2. The National Conference on Canadian bibliography should encourage collaboration among producers, processors, and users of bibliographic sources

and materials. Several strategies can be advanced: some of these strategies are round table discussions, paper collaborations or research project collaboration supported by the associations involved in education and the relevant funding agencies.

3. Research is needed to better understand the intellectual, methodological, information processing, and economic dimensions of education-related bibliographic work, and production must become a priority. All major funding agencies related to education should make this a priority area and should support it financially through special allocation of funds for research in this area.

4. In funding research projects, expert reports, and other policy documents that deal with the protection of culture, heritage, and intellectual property, the relevant agencies should mandate the recipients of such funds or contracts to devote a special chapter to the bibliographic issues related to education.

5. In negotiating international contracts, economic and cultural exchange programs, the appropriate government authorities must specify that special attention be devoted to bibliographic issues in general, and to the ones related to education in particular.

6. Plan a special computerized system and appropriate softwares for the systematic compilation of bibliographic information in the emerging and dynamic field of electronic publishing of educational periodicals and curricular materials.

7. A national educational database model should be adopted, the ONTERIS (OISE)-CEI model already existing as the natural choice. The Departments of Education within each province should designate some body as a clearinghouse responsible for the acquisition, cataloguing, and abstracting of education publications, and these clearinghouses must establish a formal link with Micromedia so that acquired materials be listed in Canadian Education Index and made available for distribution nationally and internationally. The database must be truly comprehensive, and reflect the multicultural and multilingual nature of our production in the area of education. Indicators should give appropriate credit to the producers by gender, regional identification, ethnicity, and other specific factors where relevant.

8. A database of Canadian education materials should becreated which is similar in scope to Silver Platter's Education Library, to include primarily books, and possibly audio-visual materials and government publications.

9. Failing the above suggestion, major funding must be found to revive the nonprint project, to create major bibliographies for the control of Canadian-produced audio-visual materials, including audio-cassettes, filmstrips, video, multi-media kits, games, and computer software.

10. The National Library should consider conversion of Canadiana to CD-ROM format a top priority in order to benefit users with a more user-friendly, free-to-access national bibliography.

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